

Patent
Attorney's Docket No. 021480-679

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of)
Thakrar et al.) Group Art Unit:
Application No.:) Examiner:
Filed:)
For: Colored Contact Lenses and Method of)
Making Same)

PRELIMINARY AMENDMENT

Assistant Commissioner for Patents
Washington, D.C. 20231

Sir:

Applicants request that the following amendment be entered prior to examination of the above-reference application, which is a continuation application of U.S. Application 09/658,592.

Please cancel claims 1-51 and add new claims 52-80 as follows:

--52. An optical hydrogel lens having an active material encapsulated in resin capsules impregnated in said lens, adjacent an optical surface thereof.

53. The optical lens of claim 52 in which the resin capsules are formed from a polymerized thermoplastic resin.

54. The optical lens of claim 52 in which the resin capsules are formed from a polymerized precursor of a thermostat resin.

55. The optical lens of claim 52 in which the active material is a therapeutic agent.

56. The optical lens of claim 52 in which the active material is a coloring material.

57. The optical lens of claim 52 in which the coloring material is a pigment insoluble in the monomer used in producing the lens.

58. The optical lens of claim 57 in which the coloring material is a dye insoluble in the monomer used in producing the lens.

59. The optical lens of claim 57 in which the coloring material is in the form of an identifying mark on one side of said lens.

60. A hydrogel optical lens having imbedded therein resin capsules containing an active material, said lens having substantially intact films of hydrogel material on the optical surfaces thereof, and with the said resin capsules concentrated closely adjacent at least on of said surfaces.

61. The optical lens of claim 60 in which the lens forming material is a hydroxy ethyl methacrylate.

62. The optical lens of claim 60 in which the lens forming material is a glycidyl methacrylate/methyl methacrylate monomer blend.

63. The optical lens of claim 60 in which the lens forming material is a methacryloxypropyltrix(pentamethyl disiloxanyl) silane/methyl methacrylate monomer blend.

64. The optical lens of claim 60 in which the resin is polyvinyl alcohol.

65. The optical lens of claim 61 in which the resin is polymethyl methacrylate.

66. The optical lens of claim 61 in which the active material is a therapeutic agent.

67. The optical lens of claim 61 in which the active material is a coloring material.

68. The optical lens of claim 67 in which the coloring material is titanium dioxide.

69. The optical lens of claim 67 in which the coloring material is phthalocyanine blue.

70. The optical lens of claim 67 in which the coloring material is phthalocyanine green.

71. The optical lens of claim 67 in which the coloring material is a mixture of titanium dioxide, phthalocyanine blue and phthalocyanine green.

72. A soft hydrogel colored contact lens that is fabricated by a process that comprises:

selecting a coloring material which is insoluble in the monomer material to be used in the lens;

dispersing said coloring material in a carrier system which is compatible with said monomer material to form a dispersion wherein said carrier system comprises a carrier system resin dissolved in an organic solvent;

using the resulting dispersion to imprint an iris simulating pattern on a surface of a casting mold;

evaporating the organic solvent from the carrier system;

introducing a monomeric lens forming liquid in said mold in contact with said imprinted surface wherein said monomer lens forming liquid comprises a hydrophilic monomer capable of forming a soft hydrogel lens;

polymerizing said liquid to produce a lens blank having a colored iris simulating pattern impregnated in said blank, adjacent an optical surface thereof; and
hydrating the resulting lens.

73. The contact lens of claim 72 in which the resin is a thermoplastic resin.
74. The contact lens of claim 72 in which the resin is the polymerized precursor of a thermoset resin.
75. The contact lens claim 72 in which the coloring material is a pigment.
76. The contact lens of claim 72 in which the coloring material is a dye insoluble in the monomer material.
77. The contact lens of claim 72 in which the coloring material is a mixture of pigments.
78. A soft hydrogel colored contact lens that is fabricated by a process that comprises:

- (a) providing a resin system by:
 - (i) dissolving from about 10 to 30% by weight of a polyvinyl alcohol in about 90 to 70% by weight of butanol to form a solution of said polyvinyl alcohol in said butanol; and
 - (ii) dispersing in said solution a mixture of about 1 to 20% by weight of a titanium oxide, about .01 to 1% by weight phthalocyanine blue, .01 to .1% by weight

phthalocyanine green, and about .01 to 1.0% by weight iron oxide yellow pigments, each by weight of the solution, so as to form a resin system;

(b) applying said resin system to imprint an iris simulating pattern on a surface of a casting mold;

(c) introducing a 2-hydroxyethyl methacrylate monomer in said mold in contact with said imprinted surface;

(d) polymerizing said monomer to produce a lens blank having a colored iris simulating pattern impregnated in said blank, adjacent an optical surface thereof; and

(e) hydrating the resulting lens.

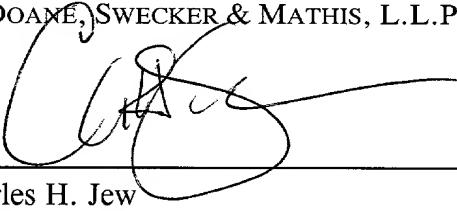
79. The contact lens of claim 78 in which the pigment particles are less than 10 microns in size.

80. The contact lens of claim 78 in which the dispersion is imprinted on the convex surface of a mold half and the monomer is introduced into the concave mold half.--

Respectfully submitted,

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